peripheral or Wallerian degeneration. Raimann attempts to study this question by an examination of the cranial nerves. For the purpose of studying the peripheral neurone the motor cranial nerves are very suitable, as these nerves consist physiologically of the same kind of fibers, and as it is possible to follow the nerve and its root to their cells of origin. In this paper retrograde degeneration is used in its narrower sense and does not include the ascending degeneration which is thought by some to extend beyond the nuclei of origin. Dogs were used for the experiment. The facial nerve was laid free, and the three branches dissected and followed to their common root. Around the root a ligature was tightly passed. The nerve was then divided centrally; peripherally the stump was resected in order to prevent the possibility of regeneration. The wound was then aseptically dressed and the animals killed and examined in fourteen to fifty-six days later. The following conclusions are noted as the result of these experiments: 1. The peripheral portion of a nerve separated from its trophic center presents a very different appearance from the portion still in connection with this center. While the former shows, without exception, in its entirety the picture of Wallerian degeneration, the latter, together with the cells of origin, show evidence of a gradual and very slowly advancing destructive process, which must be described as atrophy. 2. The central portion of the nerve, as well as the cells, can undergo a rapid degeneration. This happens when traumatic or infectious or toxic processes complicate the break in the paths of conduction, for the reason that an injured neurone is always in a condition of more unstable equilibrium. 3. The term retrograde degeneration as applied to this condition is not a good one, and should be avoided. The author suggests the term traumatic destruction or degenerative neuritis. 4. While we must distinguish, as far as the central portion of the nerve is concerned, either an atrophy or a traumatic destruction, or a degenerative neuritis; in the peripheral portion only one process is observed, namely, Wallerian degeneration. SCHWAB.

THERAPY.

136 GEHIRN-SUBSTANZ IN NERVENKRANKHEITEN (Use of Brain Substance in Nervous Disease). V. Babes (Klin. ther. Woch., June 17, 24, 1900).

Following lines adopted by Pasteur in the treatment of hydrophobia similar results are claimed by the author following the use of injections of brain substance obtained from normal animals; further than this, functional nervous disease, such as neurasthenia and epilepsy, have been frequently influenced. This in the author's mind tends to show that the various toxins to which the nervous system is especially susceptible, and to which the symptoms of epilepsy, etc., are in main due, in the presence of foreign brain matter in the blood will combine more readily with this than with other nerve cells of the affected animal and thus will forestall such chemical changes as probably lie at the bottom of most functional neuroses. The author is certain that suggestion may be ruled out as an active factor in his cures, since he has been equally successful with children; and adults, where the subconscious self is clouded, have yielded not less remarkable cures.

JELLIFFE.

137 LE TRAITEMENT DE L'EPILEPSIE AVEC LES BROMIDES (Treatment of Epilepsy with the Bromides and Withdrawal of Sodium Chloride). Toulouse (Revue de Psychiatrie, Jan., 1900).

The author refers to a paper read before the Academy of Sciences by himself and Richet late in 1889, in which the conclusion was reached that the deprivation of salt ought to raise the therapeutic potency of the bromides. The rationale of this action is the fact that bromides may be used to replace chlorides in the organic cells of the body. This cutting out of the chlorides from the diet is known as "hypochloruration." The young have more need of sodium than the adults. According to Bunge the latter take far too much salt in diet. Many ingest as much as 20 or 30 gms. daily, while 1 or 2 gms. are enough to secure parity between the potash and soda of the diet. With regard to hypochloruration in general, experimenters find that it is pernicious to withdraw salt entirely. But a man who weighs 130 pounds will get 14 gms. of sodium chloride on a daily average from his food. The lowest amount he can be made to receive by modifying his diet is 2 gms. Toulouse's diet to reduce the salt to the minimum is as follows: Bread (no salt added) 550 gms., salt .027; meat 280 gms., salt .684; milk 125 gms., salt .133; one egg 35 gms, salt .171. Making a total of 1.015 gms.

By allowing fresh beans or peas, and fruit in moderation, the salt is brought up to 2 gms. The amount of salt added in cooking, seasoning, etc., would bring this amount up to 8 or 12 gms. A similar diet arranged in four meals would be as follows: 7 A. M., milk, .25 liter (25 centiliters); 11 A. M., two cakes made with eggs, farina, milk, and sugar; coffee; 3 P. M., porridge made with farina, sugar, boiling milk, etc.; 5.30 P. M., bouillon, unsalted; boiled beef, unsalted; potatoes; no wine. This diet was acceptable to the patients. Twenty epileptics were treated by this plan; all were of essential epilepsy, and all exhibited enfeeblement of mind. Cases were selected in which convulsions were of frequent occurrence. Bromide of sodium was given because less toxic, and the daily dose, at first of 4 gms., was reduced in most cases to 2 gms. In most cases the results appeared to be strikingly beneficial. Patient No. 18, for example, who usually had an attack every five days, went 184 days without a solitary attack, and in all the cases a diminution of attacks amounted to 92 per cent. Those of the patients who used no bromides at all while upon the diet showed no improvement, showing that the diet is merely an adjuvant to bromides. CLARK.